Resilient Factors in Students with Disabilities: Universidad Técnica de Manabí

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Abstract

The research analyzes the relationship between factors of resilience and academic performance in disabled students studying at the Technical University of Manabí. It is a correlational descriptive study conducted with a population of 88 disabled students, of which two groups were selected, one with high academic performance and the other with low performance. A questionnaire was designed and applied to determine the level of quality of life and risk factors of adolescents. Resilience was measured with the SV-RES scale created for the Latin American population.

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1. Introduction

Resilience can be understood by the ability to recover, overcome and adapt successfully to adversity and develop social, academic and vocational competence despite being exposed to unfavorable events. The resilience in education is the ability to resist, is the exercise of strength, to face the ups and downs of personal, family, professional and social life.[1]

The term has been adopted in a certain way instead of invulnerable, invincible and resistant. The resilient meaning recognizes the pain, struggle, and suffering implicit in the process. The concept of resilience moves away from the medical model of human development based on pathology and approaches a proactive pedagogical model based on well-being, which focuses on the acquisition of own competencies and effectiveness. For this it is necessary to explore the sources of personal strength, considering that the perfection of the strength is the constancy, the capacity to undertake and resist.

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The process of acquiring resilience is the normal process of life and every person requires overcoming episodes, traumas, and ruptures in the process of living and achieving happiness. The risk factors in young people are any characteristic or quality of a person or community together with a high probability of physical, mental, social-emotional or spiritual damage, on the other hand, the internal protective factors. They are conditions or environments capable of favoring the development of people or groups and reduce the effects of unfavorable circumstances, external protective factors: they refer to environmental conditions that act reducing the likelihood of harm such as the extended family, the support of a significant adult or the labor and social integration.[2]

Within education, resilience plays an important role, since, through the promotion of this, the development of social, academic and personal competencies can be favored, allowing the student to overcome adverse situations and get ahead in life. However, the study of resilience in educational institutions has been very poor, especially those that have to do with higher education.[3] Few researchers try to relate resilience with academic performance. Since, although performance is seen as a multidimensional variable that is influenced by family, social, pedagogical factors and by the characteristics of the person. The theorists tend to investigate the determinants of this in age, sex, marital status and variables related to the time dedicated to the study, the difficulty of the careers, the school of origin, among others,[4] and the factors personal of the students.

It indicates that few studies provide a broad view of academic performance from the personal level and low performance is one of the most common problems of public universities in the country, which can lead to the withdrawal or desertion of the student. The Technical University of Manabí as a public entity is no stranger to this problem and with more than 18,000 students, with real prospects of growth in enrollment, faces the challenge of retaking the concept of resilience from the angle of its proactive study and the development of Resilient activities

Considering above objective of the work is to identify the resilient factors in students with disabilities at the Technical University of Manabí so that work can be directed towards student groups that present more difficulties in academic performance and that serve as support to the improvement of the academic stability of the institution.

2. Research Methods

The general study design is the quantitative descriptive-correlational type. The population universe is 88 disabled students who are studying in the second cycle in different careers at the Technical University of Manabí. Intentional sampling was done to choose the population belonging to two groups, one with low performance and the other with high performance; each group was chosen from the lower and upper limit of the accumulated average for each program. The first ones consisted of 22 students and the second ones by 23, for a total of 45 distributed in the different careers offered by the university shown in Table 1.

Table 1
Distribution of the population and sample studied

No	Careers	Population	Sample	
			High performance	Low performance
1	Business Administration	3	1	0
2	Librarianship	4	1	1
3	Accounting and auditing	4	1	1
4	Economy	3	0	1
5	Physical education	1	0	0
6	Nursing	4	1	1
7	Languages and Linguistics	1	0	0
8	Civil Engineering	6	2	1
9	Electric engineering	1	0	1
10	Engineering in Industries (Chone)	3	0	1
11	Industrial engineer	1	0	0
12	Engineering in Sist. IT people	4	1	2
13	Mechanical Engineering	3	1	1
14	Chemical engineering	5	1	2
15	Zootechnical Engineering	3	1	0
16	Clinical laboratory	6	2	1

17	Medicine	3	1	0
18	Veterinary Medicine	2	0	1
19	Nutrition and diet	2	1	0
20	Optometry	5	1	2
21	Clinical psychology	8	3	2
22	Social work	16	4	5
23	Total	88	22	23

The inclusion criteria that were taken into account for the population was that the students were enrolled during the second cycle of 2018 and that they had a high or low cumulative average of the semesters studied. The only exclusion criterion is that the students were enrolled in the first semester. The sample size was estimated with 95% confidence and 5% error, with a probability of 50% of the event occurring and 50% of no, for a total of 45 students. The elements of the sample were selected by non-probabilistic random sampling by proportion according to each race, distributed as follows: 23 students for the group with low performance and 22 for the high-performance group.

The Resilience Scale SVRES (Saavedra & Villalta, 2008) is a Latin American alternative of structured measurement about two questions: a) What personal resources, consciously and intentionally, does the subject use to deal with adversity? And b) How is resilient behavior constituted from the perspective of the subject? (Villalta, Saavedra, & Escurra, 2007). The instrument used the SVRES resilience scale;[5] consisting of 60 items, to analyze 12 resilience factors. The Scale has a Lickert type format that is rated with a range of 5 response options: (1) Strongly agree, (2) Agree, (3) Neither agreement nor disagreement, (4) Disagrees, (5) Very in disagreement. The maximum score is 300 points.

The resilience factors are defined in Table 2.

Table 2
Resilience factors SV-RES scale

Grotberg's interactional competences	Niveles de estructuración de la conciencia			
	Condiciones de base	Base conditions	Vision of the problem	Resilient response
I am, I am	F1: Identidad	F1: Identity	F3: Satisfaction	F4: Pragmatism
I have	F5: Vínculos	F5: Links	F7: Models	F8: Goals
I can	F9: Afectividad	F9: Affectivity	F11: Learning	F12: Generativity

Source:[5]

The analysis procedure is as follows:
a. The questionnaires are applied, they are entered into the statistical analysis program SPSS v10 for the statistical analysis.
b. Descriptive statistics and parametric and nonparametric analysis tests are used, considering the criteria and characteristics of the case studies.
c. It is not possible to assume a normal distribution of the results for all the analyzes.
d. The results are analyzed by careers and are compared between the group High Educational Performance (AA) and Low Educational Performance (AB).

3. Results and Analysis

The models of resilience have in common the combination of internal and external factors that, in a processual perspective, protect the subject from adversity. In the specialized literature, various models are described, such as Compensatory, Protective, and improvement or challenge[6,7,8] which have guided the study of resilience in various situations of adversity.

Likewise, instruments have been constructed to measure aspects related to resilience: the impact of adversity, levels of adaptation and the process of developing adversity, which has favored greater precision and delimitation

of the construct. Finally, there is agreement among researchers that resilience can be measured.[9,10] The promotion of resilience is based on the assumption of the universal capacity of human beings to address adversity satisfactorily.[11] In this sense, the study methods aim to recognize and analyze those behaviors that, built in the interaction, operate as protective factors of the damage in a given context. Knowing and analyzing these resilience factors, contextually delimited, is the objective of the various measurement proposals.

Another author[12] managed to investigate and systematize the various techniques to study the resilience reported in electronic scientific journals: Projective tests, imaging tests, and psychometric tests, where the latter deal with self-report questionnaires, type Lickert. It describes thirteen psychometric tests of resilience measurement designed for English-speaking adolescents and some of them have been adapted for studying in Spanish-speaking adolescents[13,14] and in other cultures[15] analyzes specialized magazines and reports the psychometric properties of a set of tests that measure resilience in English-speaking adolescents.

Seventeen tests measuring resilience are reported in the scientific literature, all designed and validated in the English-speaking population.[12] There are proposals for measuring resilience designed in the Latin American context. These include the Inventory of Resilience Personal Factors designed by Salgado for Peruvian children [16]; the Resilience Questionnaire for University Students (CREUDE).[17] Designed for the Colombian university population; and the SVRES Resilience Scale[5] designed for young and adult Chilean population, which is more adapted to the characteristics of the Latin American region, culture, and traditions.

The theoretical constructs that support the revised instruments distinguish different domains or capacities of the resilient person, being the most recurrent in the measurements the following: strength or resistance to stress through the positive re-elaboration of the traumatic experiences, the strengthening of social networks and family, valuation and self-confidence, among others.

There is agreement among specialists to consider that resilience can not be reduced to a set of personality traits. But refers to elements or factors that operate within the individual. It is cultivated throughout his personal history,[8] possibly in early links with their caregivers[18,19] being a condition for the development of a particular appropriation of the events of life.[9] The authors who confirm that behaviors linked to resilience are individual expressions. The constitute social interaction and studies highlight the first years of life.[19]

3.1 Results

With the items of the survey, the scale of quality of life perceived (CVP) was elaborated. The minimum score (8) indicates that the perception of physical, emotional and mental health is always excellent or good; the maximum score (32) indicates that the perception of physical, emotional and mental health is always bad. When analyzed by the two groups (low AB performance and high AA performance, it is found that the high-performance group is the ones that report the majority, in comparison with the low-performance group, greater dissatisfaction with their disability, greater limitations in their role as students. emotional problems and those who most frequently felt uneasy The distribution (4, N = 638) = 22.46, p = .00 indicates significant relationship (p <.01) between Perceived Quality of Life (CVP) and academic performance. En la Table 3 se expone la descripción y comparación por grupos.

Table 3
Description and comparison by groups

CVP scale	High performance AA	Low performance AB	Total
8-15 Very good CVP	11,3%	5,6%	8,2%
16-19 Good CVP	45,8%	35,0%	39,8%
20-24 Regular CVP	35,6%	44,1%	40,3%
25-28 Bad CVP	6,0%	13,6%	10,2%
29-32 Very bad CVP	1,4%	1,7%	1,6%
Total	100,00%	100,00%	100,00%

The questionnaire included a list of 13 adverse situations that the literature associated with situations of risk for the disability. They are called Specific Risk Factors (FER). The participants were asked to mark the situations in the list that they had lived in the last 12 months. The alternative was included. I have not lived these situations.

Table 4 shows the results, which show that 7 out of 10 respondents have lived at least one of the 13 adverse situations presented.

Table 4
Specific risk factors (FER)

No	Have you experienced one or more of the following situations?	AA n=126	AB n=127
1	Death by accident or illness of a family member dear to you.	26,7	25,8
2	Divorce or separation from your parents	9,2	8,1
3	Serious illness of your parents or a family member dear to you.	25,1	26,3
4	Serious economic problems	15,5	25,3
5	The suicide of a relative, friend or acquaintance.	5,6	8,1
6	The loss of housing	0,4	1,6
7	Having had a violent accident	3,6	1,1
8	Alcoholism or addiction in a family member	16,7	23,7
9	Physical aggression	3,6	3,2
10	Suffered sexual aggression	0	0,5
11	Suffering theft	9,6	12,9
12	Witness a violent accident	12,7	8,1
13	Own or partner's pregnancy	1,2	5,9
14	I have not lived these situations	30	30

Serious illness of parents or a loved one is one of the most frequently reported situations, especially in the AB group (26.3%). The death by accident or illness of a loved one rises, especially in the AA group. Having serious economic problems and the alcoholism or addiction of a family member is a situation that is of particular concern to students in the AB group compared to the AA. The correlation between the general score of the SVRES resilience scale and the general average of academic performance of the studied population is weak or zero intensity (Rho = 0.11 p <0.05). Similar trend is observed when correlating the 12 factors of the SVRES scale
Table 5 shows the correlation between the total SV-RES percentage and the factors of resilience and academic performance. Groups AA, AB, and total sample.

Table 5
Correlation between the total SV-RES percentage and the factors of resilience and academic performance

Resilience factors according to SV-RES scale	General average group AA n=126	General average group AB n=127	Total sample n=253
Total score SV-RES	0,12	0,12	0,11*
F1. Identity	0,09	0,08	0,10
F2 Autonomy	0,07	0,13	0,06
F3 Satisfaction	0,01	0,09	0,07
F4 Pragmatism	0,09	0,15	0,07
F5 Links	0,06	0,04	0,04
F6 Networks	0,21**	0,14	0,15**
F7 Models	0,10	0,04	0,08
F8 Goals	0,15*	0,27*	0,15**
F9 Affectivity	0,02	0,09	0,06
F10 Self-esteem	0,16*	0,16	0,13*
F11 Learning	0,10	0,10	0,10*
F12. Generativity	0,09	0,03	0,09
**p< 0,01 (bilateral). *p< 0,05 (bilateral).			

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It is understandable that there are no high linear correlations between resilience and school performance since resilience refers to a particular and proactive way of preparing adverse situations that do not necessarily have academic performance as the relevant type of adaptive result. On the other hand, there are institutional aspects that mediate between the risk factors and the development of resilient mechanisms linked to the achievement of academic learning

3.2 Resilience to school failure and academic performance

The results indicate that there is no linear relationship between resilience and academic performance. There are other factors that together with the institutional context explain the process of coping with risk and adversity with successful or adaptive results. When performing the analysis by groups of Specific Risk Factor (FER) it is found that of the 13 risk factors presented in the survey, two evidence the relationship between resilience and academic performance: a) Divorce or separation from your parents and b) Own pregnancy or of the couple. Table 6, shows a negative and significant moderate correlation (Rho = 0.49, p <.01) between the SVRES resilience score and the Perceived Quality of Life (CVP). That is, as the negative perception of the quality of life increases, the resilience score on the SVRES scale decreases. Additionally, a moderate and significant positive correlation is found (Rho = 0.44, p <.01) between the 2007 grade point average and the overall resilience score on the SVRES scale.

Table 6
Negative and significant moderate correlation

	Perceived quality of life	Specific risk factor	Total score SV-RES
Specific risk factor	0,34	1	
Total score SV-RES	-0,49**	-0,07	1
General average	-0,10	0,07	0,44**
*p< 0,05 **p< 0,01			

Table 7 shows a moderate correlation between specific risk factors (ERF) and perceived quality of life (CVP) (Rho = 0.58, p <.05). The correlation is moderate and negative between the SV-RES score and the perceived quality of life (Rho = 0.42). That is, in this group, as the negative judgment of the quality of life increases, the score on the resilience scale decreases. The correlation is very high, negative and significant between the grade point average and the number of specific risk factors (Rho = 0.83, p <.01). The more FER the respondent expresses, the lower his grade average decreases. Finally, a moderate correlation is identified between the average grade and the general score on the SV-RES scale (Rho = 0.41).

Table 7
Moderate correlation between specific risk factors (ERF) and perceived quality of life (CVP)

	Perceived quality of life	Specific risk factor	Total score SV-RES
Specific risk factor	0,58*	1	
Total score SV-RES	-0,42	-0,21	1
General average	-043	-0,83**	-0,41
*p< 0,05 **p< 0,01			

4. Conclusion

The research allowed to verify that in the factors of resilience linked to academic performance, the relationship between resilience and academic performance is not obvious or direct.

It was found that in the group of disabled students reporting divorce or separation from parents, there is a moderate and significant correlation of the factors of resilience Identity (Factor 1), Goals (Factor 8) and Generativity (Factor 12), with performance academic. It occurs in the two groups studied, but the correlation in the low academic performance (AB) group is particularly significant. The other adverse situation that adolescents

report and mobilize resilience mechanisms linked to academic performance is the experience of maternity and/or adolescent pregnancy.

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